

LETTER REPORT
FOR
AUTOMOTIVE FINISHES, INC.
DEARBORN, WAYNE COUNTY, MICHIGAN
TDD S05-9612-010
PAN 6D1001SIXX

US EPA RECORDS CENTER REGION 5



546556

March 19, 1997

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Emergency Response Branch
77 West Jackson Boulevard
Chicago, Illinois 60604

Prepared by: Anne Hellie Date: 3/20/97
Anne Hellie, START Project Manager

Reviewed by: Michael Dieckhaus for Karen T. Dieckhaus Date: 3/20/97
Karen T. Dieckhaus, START Member

Approved by: Michael L Dieckhaus Date: 3/20/97
Michael Dieckhaus, START Assistant Program Manager



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March 19, 1997

Ms. Gail Nabasny
START Project Officer
Emergency Support Section
U.S. Environmental Protection Agency
77 West Jackson Boulevard
Chicago, Illinois 60604

Re: Automotive Finishes, Inc.
Dearborn, Wayne County, Michigan
TDD S05-9612-010
PAN 6D1001SIXX

Dear Ms. Nabasny:

On December 20, 1996, the Ecology and Environment, Inc. (E & E), Superfund Technical Assessment and Response Team (START) was tasked by the United States Environmental Protection Agency (U.S. EPA) to conduct a site assessment at the inactive Automotive Finishes, Inc. (AFI), site in Dearborn, Wayne County, Michigan, under Technical Direction Document (TDD) S05-9612-010. Tasks to be completed under the TDD included: collecting, analyzing, and/or validating analytical samples; providing quality assurance/quality control (QA/QC) support; providing for laboratory analysis; providing data to identify the existence and extent of a release, the source and nature of the hazardous substance, and the extent of danger to the public; identifying personal safety requirements and providing health and safety support; evaluating disposal options; conducting extent of contamination surveys; performing surveillance activities using a variety of vehicles, communication and audio-visual equipment; conducting technical reviews of site-related files; providing administrative and technical support to U.S. EPA in the preparation of site reports and other technical site-related documents; and evaluating the threat posed by wastes potentially migrating from the AFI facility based on Title 40 Code of Federal Regulations (CFR) 300.415, National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The site was referred to the U.S. EPA Emergency Response Branch through the Brownfields Initiative. The START members conducting this site assessment were Cedric N. Gibson, Anne Hellie, and Angela Gout. Photodocumentation is presented in Attachment A.

The AFI site, located at 6340 Wyoming Road, Dearborn, Michigan, is an inactive automotive painting facility (Attachment B, Figure 1) (42°20'16.4" North, 83°9'29.5" West). The property is approximately 5 acres in size and consists of two buildings, a courtyard between the two buildings, a parking area, and a large grassy field. The site, located in an urban\industrial area of the City of Dearborn, is bordered to the west by Wyoming Road, to the east by industrial facilities, and to the south by Detroit Terminal Railroad tracks and the Chrysler McGraw Glass Plant (Attachment B, Figure 2). The nearest

residential areas are approximately 0.25 mile east and north of the site.

AFI is currently bankrupt, and the site was referred to U.S. EPA by the City of Dearborn, through the Brownfields Initiative. According to security personnel, environmental monitoring of the site had recently been conducted, and underground storage tanks (USTs) were believed to be located on the north side of the property. Records concerning the environmental history of the site are currently in the hands of the AFI trustee. Security personnel also notified the U.S. EPA On-Scene Coordinator (OSC) Partap C. Lall that buildings on site were closed in May 1996, and site security has been maintained since August 1996.

On December 26, 1997, OSC Lall and START members Gibson, Hellie, and Gout conducted an assessment at the AFI site. During site reconnaissance activities, the OSC and START observed that large areas of the floor in Buildings 1 and 2 were flooded with water because of a rupture in the sprinkler system piping. Building 1, located on the southwest portion of the property, contained approximately five hundred 55-gallon drums stacked on shelving units, approximately fifty 1-gallon containers, and twenty 5-gallon buckets. Many of the containers were labeled with health, flammability, and reactivity labels, and some drums were labeled with specific content identification, such as solvent sludge and toluene. Some drums were missing bungs, and one drum had either spilled or leaked. Paint pigment powder was present on shelving and the floor of the east side of Building 1.

A courtyard, located between the two buildings, contained unsheltered stacked drums. Many of these drums were empty, although bulging drums were also present. Many of the drums located on the exterior of the site buildings contained labels designating drum contents as solvent sludge, hazardous waste, and flammable liquids, as well as specific content information.

Building 2, located on the northwest side of the property, contained approximately 100 drums, four 1,000-gallon aboveground storage tanks (ASTs) labeled flammable, and one 5-gallon bucket. Some drums in Building 2 were labeled flammable liquid, government formula, poison, and paint sludge, as well as specific content information.

A field was located east of the two buildings. A trailer containing filtration devices was located in this field and east of Building 2. Approximately 150 drums were stacked east of the trailer. Numerous empty drums, containing residues, were on their sides and located east of the stacked drums. A berm and vegetation were present on the east side of the site. A trash compactor was located south of the stacked drums, and approximately 20 drums were located south of the trash compactor. Another trailer was located on the southern side of the field and east of Building 1.

After completing the site reconnaissance, START collected eight drum samples (Attachment B, Figure 3). Sample AF-01, a clear, viscous liquid, was collected from a drum in the eastern portion of Building 1. Sample AF-02 was a thin, clear liquid collected from a drum located on the southwest corner of Building 2. Samples AF-03, AF-04, and AF-05 were collected from drums situated in the center of Building 2. Sample AF-03 was a gray sludge, and

samples AF-04 and AF-05 were thin, clear liquids. Samples AF-06 and AF-08 were collected from drums in the northeast section of Building 2. Sample AF-06 was a thin, orange liquid, and sample AF-08 was a thin, reddish-brown liquid. Sample AF-07, a thin, clear liquid, was collected from one 5-gallon bucket stacked on a drum in the northeast section of Building 2. START, air monitoring drum headspace with a flame ionization detector (FID), determined that organic vapors in the drums were elevated. Air monitoring of drum headspace for organic vapors detected 2,000 metered units in Drum AF-05, 3,725 units in Drum AF-07, and 3,100 units in Drum AF-08.

The eight drum samples were sent to Brighton Analytical, Inc., Brighton, Michigan for analyses. Analytical results from samples collected from AFI indicated low flash points and elevated concentrations of metals, volatile organic compounds (VOCs), and semivolatile organic compounds (SVOCs). Flash point analyses revealed that all samples, excluding sample AF-01, had flash points less than or equal to 100 degrees Fahrenheit (°F). Sample AF-03 contained 1,400 milligrams per liter (mg/L) of total zinc, and sample AF-06 contained 290,000 milligrams per kilogram (mg/kg) of total lead. Sample AF-04 contained 370,000 mg/kg of toluene, and sample AF-08 contained 44,000 mg/kg of total xylenes and 12,000 mg/kg of ethylbenzene (Attachment C).

The presence of hazardous wastes discovered at the AFI site constitute an imminent and substantial threat to public health, or welfare, or the environment based upon factors set forth in the NCP, 40 CFR Section 300.415(b)(2). The site was surrounded by a barbed-wire fence, and according to security personnel, they frequently visit the site. However, the site contained over 1,500 drums, four ASTs, and over 1,000 small buckets and containers. The condition of drums and containers, especially those located on the exterior of the buildings, are deteriorating. Based on these deteriorating conditions, the drums may release their contents. Even though some of the drums are located in buildings, drum contents may freeze, and the drums may bulge and release their contents. The broken water sprinkler exposed drums and containers inside Building 2 to standing water, which has further deteriorated the drums.

Many drums and ASTs from the site were labeled "flammable", which suggests the presence of flammable substances. Low flash points indicate the presence of ignitable materials. Drums labeled "corrosive" suggest additional contact hazards. The contents of open-top containers create dermal and inhalation hazards. Contents of buckets and open containers may be spilled, allowing migration of contaminants off site. Based on the results of the laboratory analyses, the AFI site contains various metals and human carcinogens, which pose additional hazards to nearby human and animal populations.

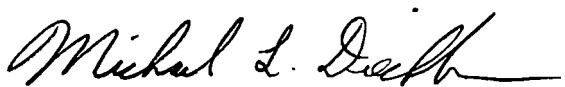
Based on the results of laboratory analyses and the site investigation, conditions at the site constitute an imminent and substantial threat to public health and welfare. Access to the site is limited, but trespassers may access the site and contact hazardous materials. Contaminated materials may migrate off site and contaminate surrounding areas.

Preparation of this letter report, with the included attachments, completes the tasks specified by this TDD. If you have any questions or need additional information, please contact our office.

Sincerely,



Anne E. Hellie
START Project Manager



Michael L. Dieckhaus
START Assistant Program Manager

Attachment: A - Photodocumentation
 B - Illustrations
 C - Data Validation Memoranda

cc: Partap C. Lall, OSC, U.S. EPA
 TDD Site File

Attachment A

Photodocumentation



12 26 '96

Site: AFI
Photo No: 1 (R1F1)
Direction: South
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Small containers and buckets on southwest wall of Building 1.



12 26 '96

Site: AFI
Photo No: 2 (R1F3)
Direction: East
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Various containers in Building 1. Notice health, flammability, and reactivity rating labels.



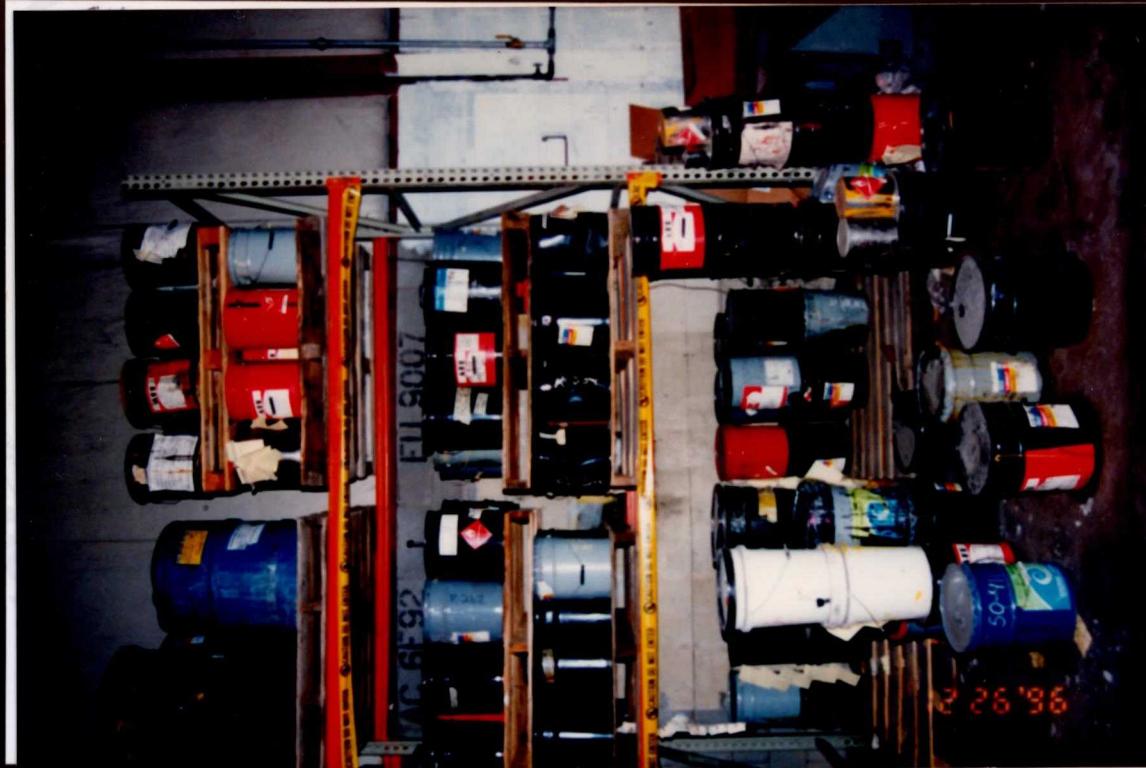
Site: AFI
Photo No: 3 (R1F4)
Direction: East
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Shelving units, and various drums, buckets, and containers in Building 1.



Site: AFI
Photo No: 4 (R1F6)
Direction: Northwest
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Drums and containers on shelves along north wall of Building 1.



Site: AFI
Photo No: 5 (R1F7)
Direction: North
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Containers marked flammable on shelving unit on north wall of Building 1.



Site: AFI
Photo No: 6 (R1F9)
Direction: South
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Shelves with spilled paint pigment on the east side of Building 1. Water on floor is from a sprinkler system leak.



Site: AFI
Photo No: 7 (R1F11)
Direction: West
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Open/leaking drum located in the middle of Building 1.



Site: AFI
Photo No: 8 (R1F12)
Direction: West
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Stacked drums along exterior of north wall of Building 1.



Site: AFI
Photo No: 9 (R1F13)
Direction: Northeast
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Drums with contents in field east of Building 2.



Site: AFI
Photo No: 10 (R1F14)
Direction: North
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Drums marked "hazardous waste" and "solvent sludge" in field.



Site: AFI
Photo No: 11 (R1F16)
Direction: East
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Methyl ethyl ketone drum
in courtyard.



Site: AFI
Photo No: 12 (R1F17)
Direction: Southeast
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Drums stacked and piled on
east side of field.



Site: AFI
Photo No: 13 (R1F18)
Direction: South
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Drums, labeled as containing mineral spirits, located on the north side of field. Building 1 is in the background.



Site: AFI
Photo No: 14 (R1F22)
Direction: Southwest
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Trailer containing filters in northwest corner of field.



Site: AFI
Photo No: 15 (R1F23)
Direction: North
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Bulging drum in courtyard
on the south side of Building 2.



Site: AFI
Photo No: 16 (R1F24)
Direction: Southeast
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Empty toluene drum in
Building 2 (FID reading of 2,000
metered units).



Site: AFI
Photo No: 17 (R2F1)
Direction: East
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Drums located in the south central part of Building 2.



Site: AFI
Photo No: 18 (R2F3)
Direction: East
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Drums sitting in standing water on northeast corner of Building 2. Water was partially frozen.

96.92.21



Site: AFI
Photo No: 19 (R2F4)
Direction: West
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Drum, located in center of Building 2, marked "solvent paint residue sludge only."



Site: AFI
Photo No: 20 (R2F5)
Direction: N/A
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Contents of drum marked, "solvent paint residue sludge only."



Site: AFI
Photo No: 21 (R2F6)
Direction: North
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Full drum marked "toluene" in center of Building 2.



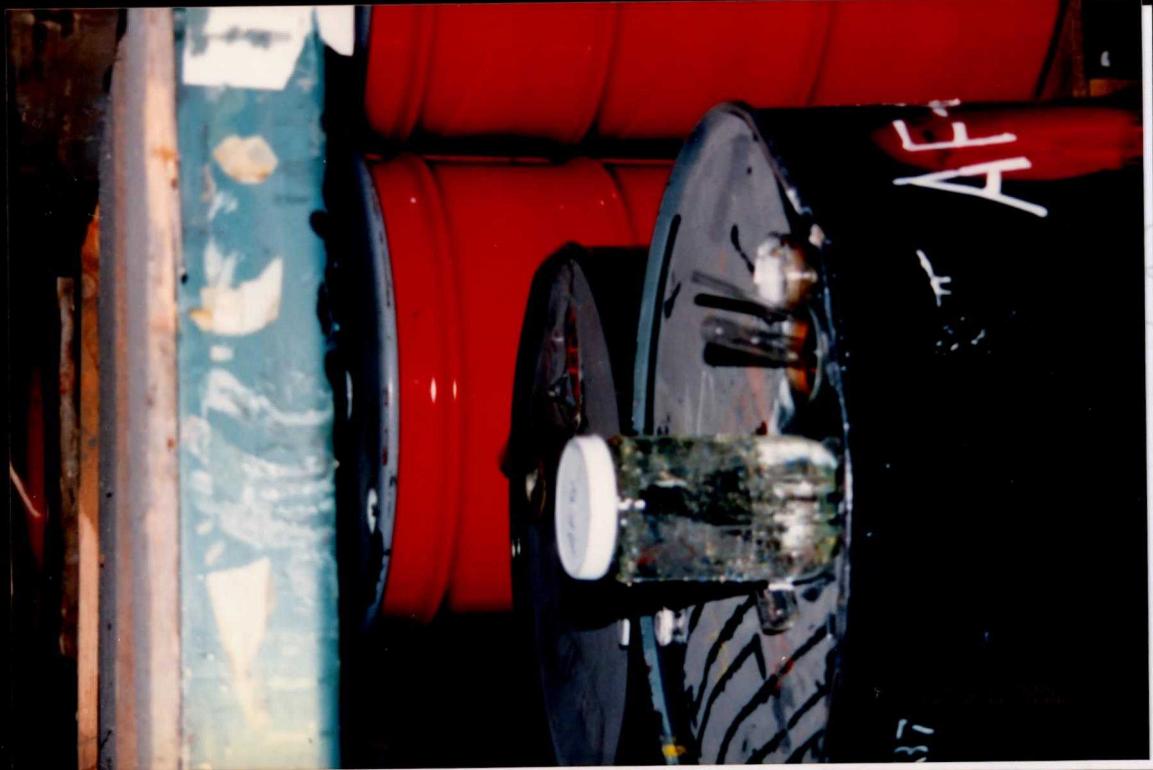
Site: AFI
Photo No: 22 (R2F7)
Direction: Southeast
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Two containers, marked "ammonium hydroxide," located near the south wall of Building 2.



Site: AFI
Photo No: 23 (R2F8)
Direction: Northeast
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Drums located in Building 2.



Site: AFI
Photo No: 24 (R2F10)
Direction: West
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Sample AF-01 collected from a drum in Building 1, Row 3, Section 322.



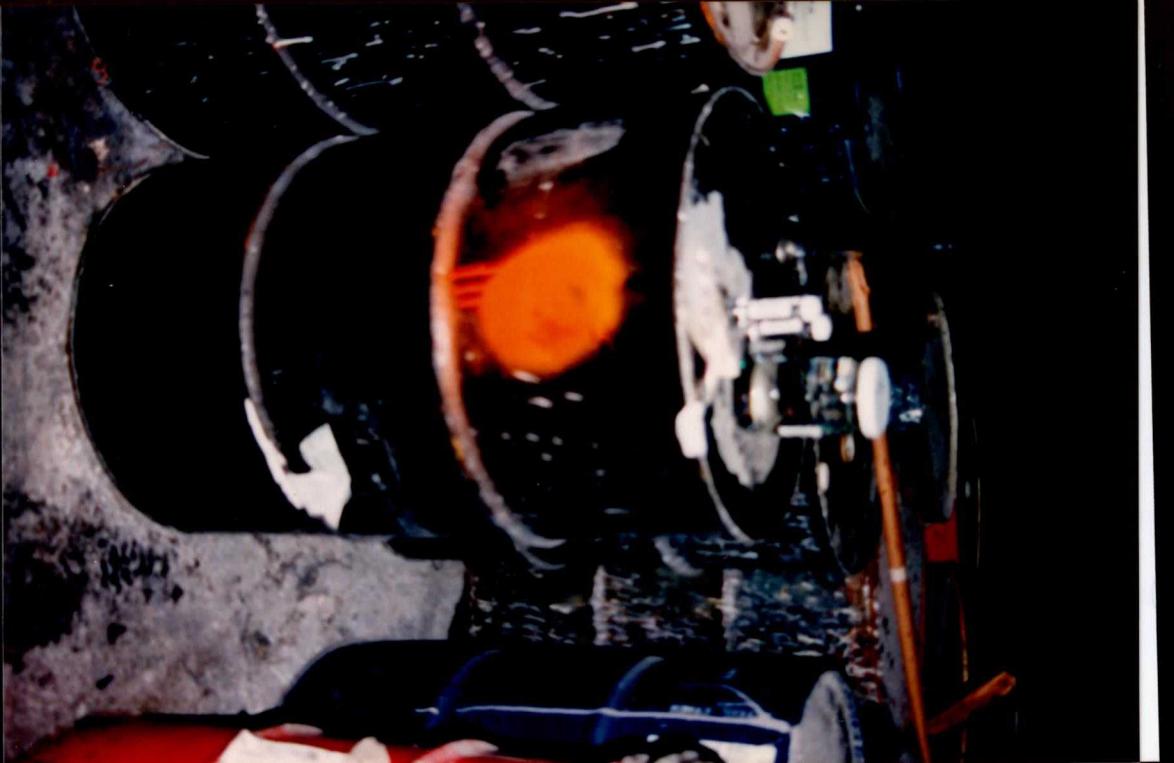
Site: AFI
Photo No: 25 (R2F11)
Direction: Northeast
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Sample AF-02 collected from a drum in southwest corner of Building 2.



Site: AFI
Photo No: 26 (R2F12)
Direction: West
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Sample AF-03 collected from a drum in the center of Building 2.



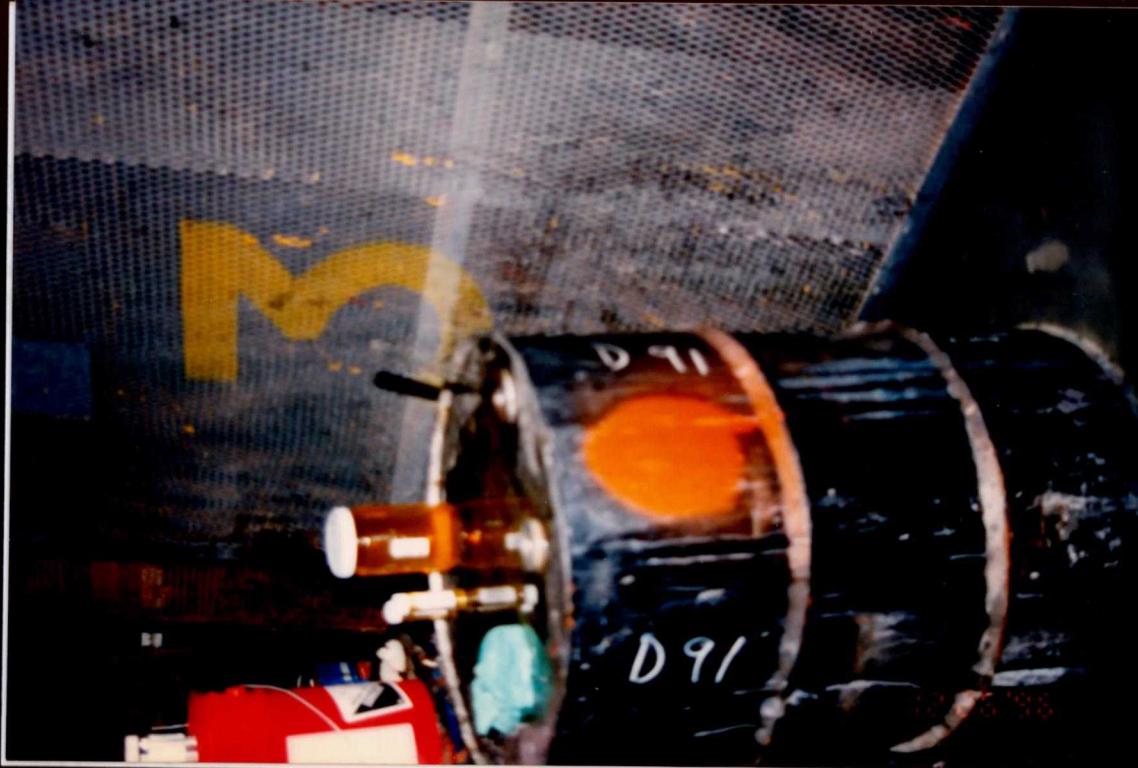
Site: AFI
Photo No: 27 (R2F13)
Direction: West
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Sample AF-04 collected
from a drum in the center of
Building 2.



Site: AFI
Photo No: 28 (R2F14)
Direction: Southwest
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Sample AF-05 collected
from a drum in center of Building
2.



Site: AFI
Photo No: 29 (R2F15)
Direction: Southeast
Camera: Minolta
Photographer: A. Hellie

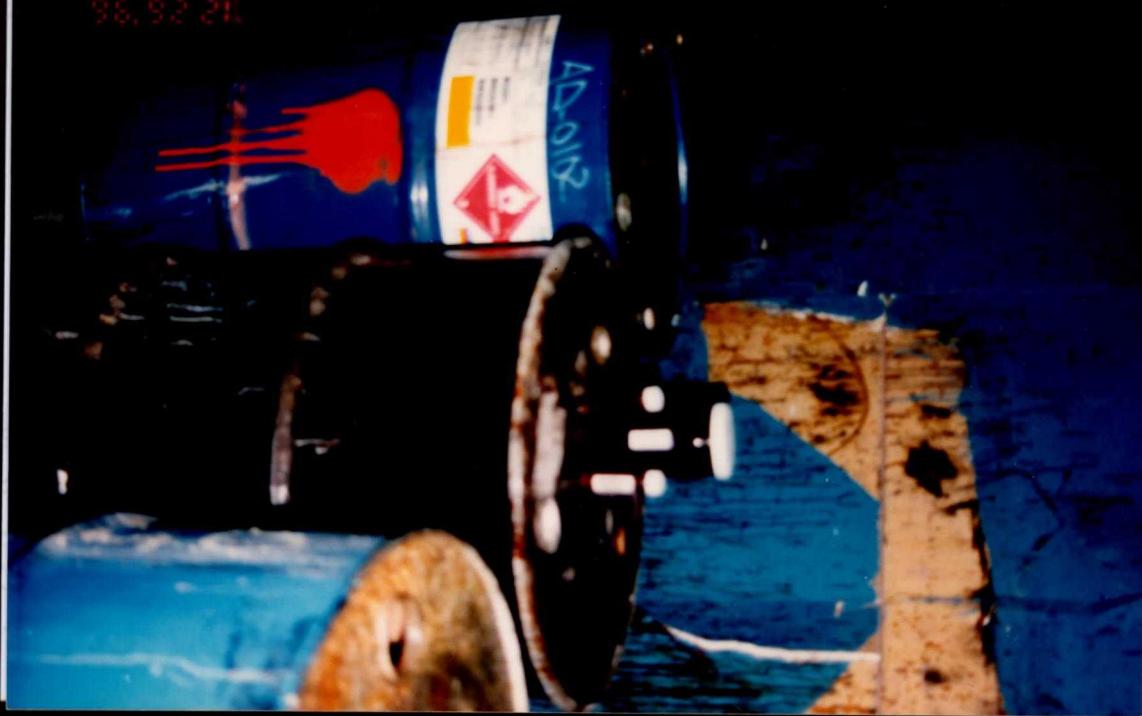
Date: December 26, 1996
Subject: Sample AF-06 collected from a drum in northeast section of Building 2.



Site: AFI
Photo No: 30 (R2F16)
Direction: Southeast
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Sample AF-07 collected from a drum in northeast section of Building 2.

96.92.21



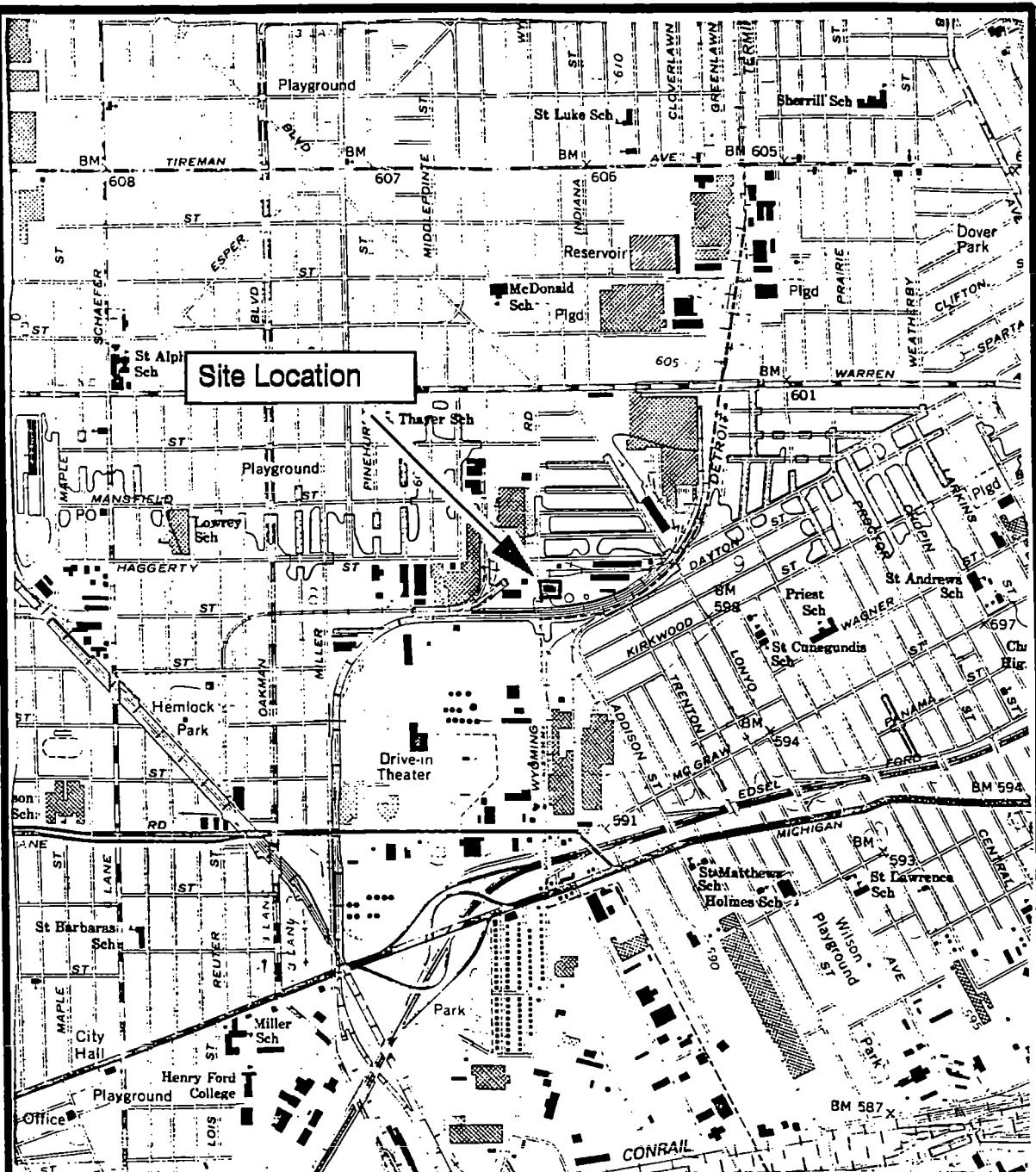
Site: AFI
Photo No: 31 (R2F17)
Direction: Southeast
Camera: Minolta
Photographer: A. Hellie

Date: December 26, 1996
Subject: Sample AF-08 collected
from a drum in northeast section of
Building 2.

91-221

Attachment B

Illustrations



Michigan



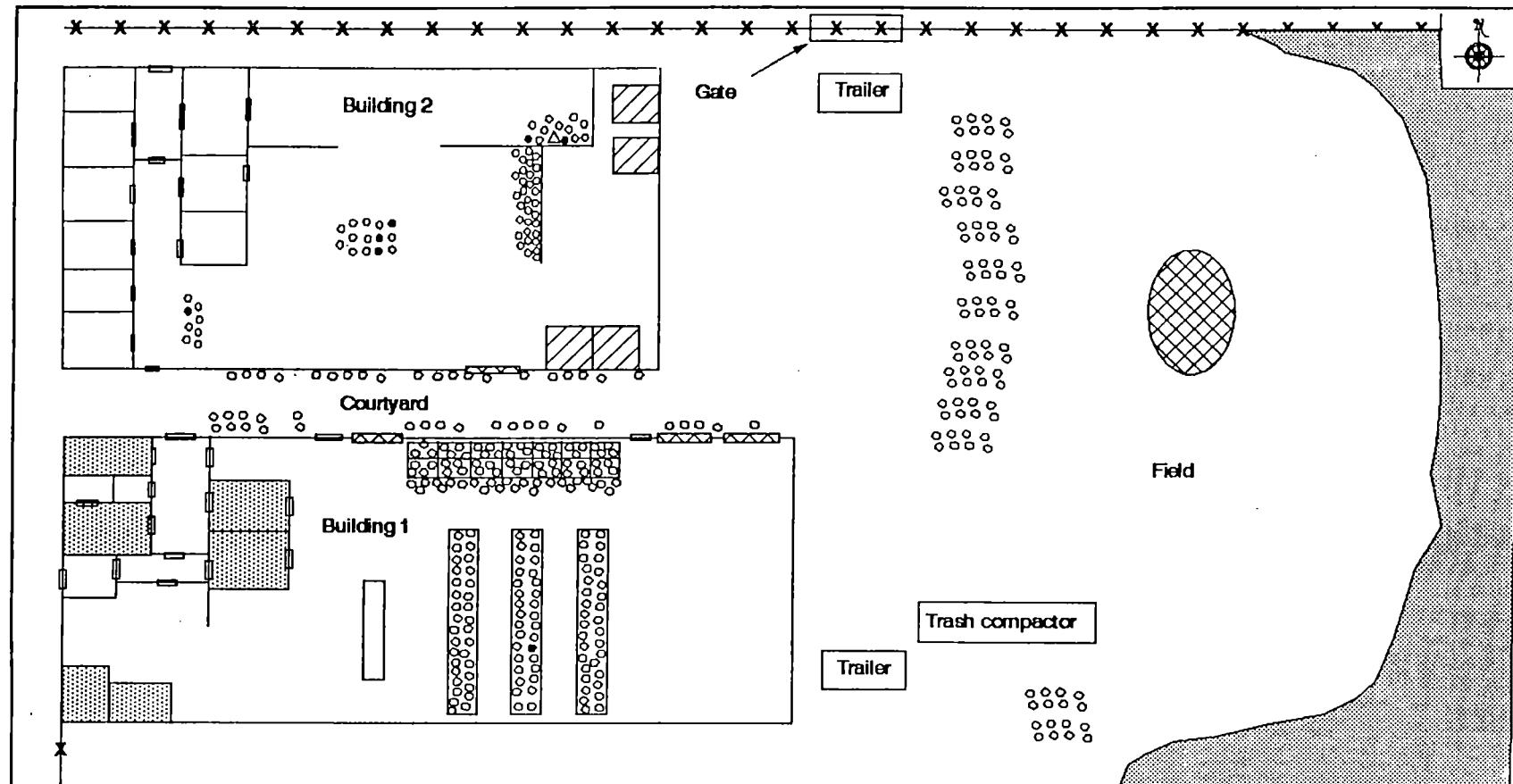
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Superfund Technical Assessment and Response Team
Region V

SOURCE/DATE	TITLE	FIGURE #
USGS Quadrangle 7.5 Minute Series Dearborn, MI P.R. 1963	Site Location Map	1
SITE	Automotive Finishes, Inc.	SCALE
CITY	Dearborn	1:24,000
STATE	Michigan	TDO #
		S05-9612-010

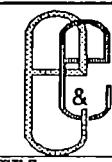
C

B-3



Legend	
Garage door	Drums on side
Door	Offices
Five-gallon bucket	Berm and vegetation
Drums	
Aboveground storage tank	
Fence	

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Superfund Technical Assessment And Response Team
Region V



TITLE

Site Features Map

FIGURE #

2

SITE

Automotive Finishes, Inc.

SCALE

Not to scale

CITY

Dearborn

STATE

Michigan

TDD #

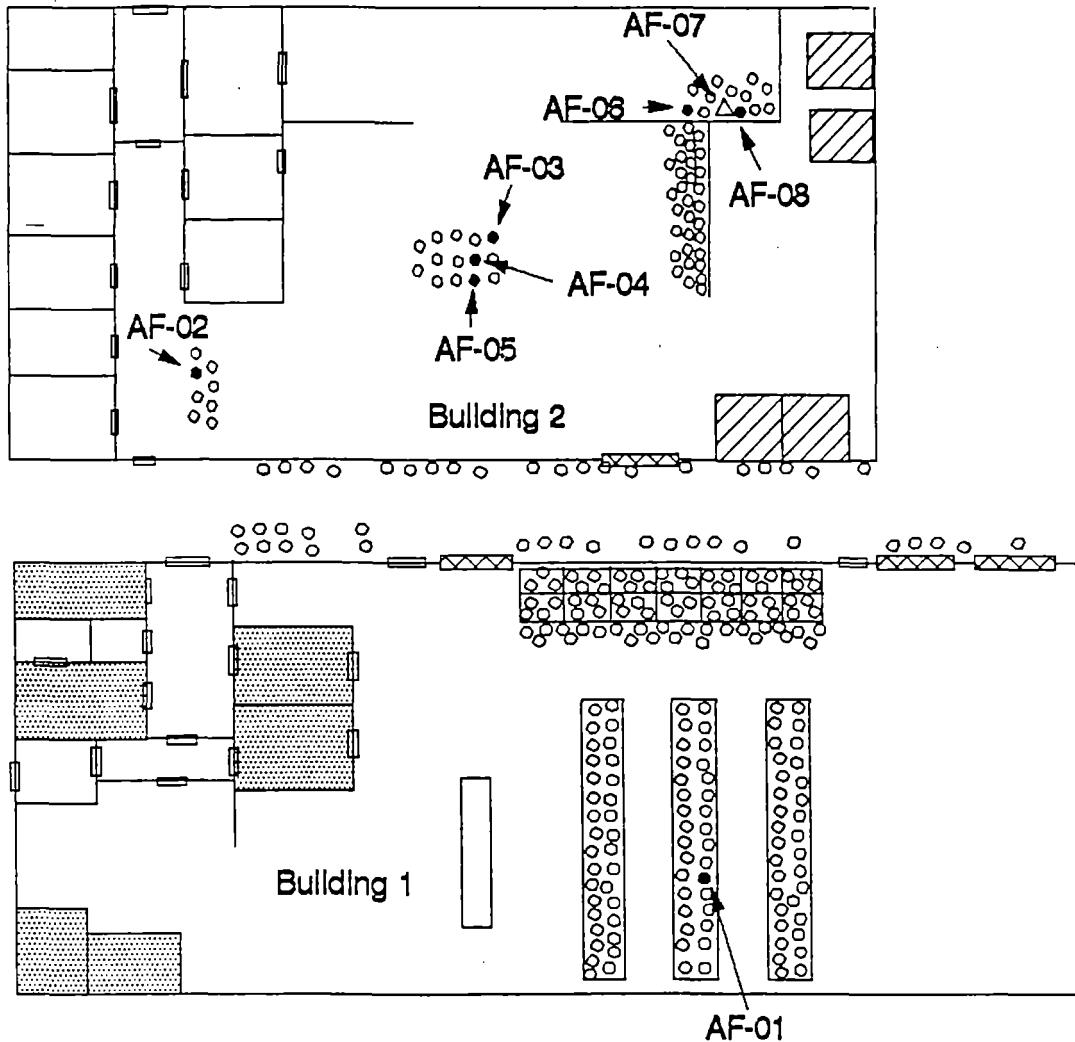
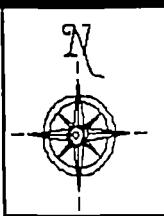
S05-9612-010

SOURCE

Ecology and Environment, Inc.

DATE

February 19, 1997



Legend		ecology and environment, inc. Superfund Technical Assessment and Response Team Region V		
△	Five gallon bucket			
●	Sample drum		FIGURE #	3
○	Drum		SCALE	Not to scale
/	Aboveground storage tank	TOD	S05-8612-010	
		SOURCE	Ecology and Environment, Inc.	
			DATE February 19, 1997	

Attachment C

Data Validation Memoranda



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12251 UNIVERSAL, TAYLOR, MICHIGAN 48180, TEL. (313) 946-0900
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M E M O R A N D U M

DATE: February 24, 1997

TO: Anne Hellie, START Project Manager, E & E, Taylor, Michigan

FROM: Karen T. Dieckhaus, START Chemist, E & E, Taylor, Michigan

THROUGH: Michael L. Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT: Total Resource Conservation and Recovery Act (RCRA) Metals Plus Copper and Zinc Data Quality Assurance Review, Automotive Finishes Inc., Dearborn, Wayne County, Michigan

REFERENCE: Project TDD: S05-9612-010 Analytical TDD: S05-9612-805
Project PAN: 6D1001SIXX Analytical PAN: 6DAE01TAXX

The data quality assurance (QA) review of two waste-liquid samples, collected from the Automotive Finishes Inc. site, is complete. Samples were collected on December 26, 1996, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). Samples were submitted to Brighton Analytical, Inc., Brighton, Michigan, for total RCRA metals plus copper and zinc analyses. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste-846 (SW-846) Methods 6000-7000 series for the determination of total RCRA metals plus copper and zinc concentrations.

Sample Identification

<u>START Identification No.</u>	<u>Laboratory Identification No.</u>
AF-03	AJ02593
AF-06	AJ02596

Data Qualifications

I. Holding Time: Acceptable

Samples were collected on December 26, 1996, and received by the laboratory on December 30, 1996. Samples were analyzed on January 6,

Automotive Finishes Inc.
Project TDD: S05-9612-010
Analytical TDD: S05-9612-805
Total RCRA Metals Quality Assurance Review
Page 2

1997. All analyses were completed within the holding times specified in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01; 6 months for metals, 14 days for cyanide, and 28 days for mercury.

II. Calibration:

A. Initial Calibration: Acceptable

Initial calibrations were within the recommended limits of 90 to 110% for metals, and 80 to 120% for mercury.

B. Continuing Calibration: Acceptable

A calibration standard was analyzed at the beginning of the analytical run and repeated after every 10 samples for each day of analyses for the metals.

III. Method Blanks: Acceptable

Calibration blanks and preparation blanks were analyzed with the samples. All analyte concentrations were below instrument detection limits.

IV. Inductively Coupled Plasma (ICP) Interference Check Samples: Acceptable

All ICP interference check samples were within 20% of the mean values. An ICP interference check sample was analyzed at both the beginning and the end of the sample run.

V. Performance Evaluation Samples: Not Performed

This evaluation was not required to be performed by the laboratory according to OSWER Directive 9360.4-01.

VI. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures; Section 3.0, Metallic Inorganic Parameters; and Section 2.7, Quality Assurance Requirements for QA Level II work. Based upon the information provided, the data are acceptable for use as reported.



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International Specialists in the Environment

MEMORANDUM

DATE: February 24, 1997

TO: Anne Hellie, START Project Manager, E & E, Taylor, Michigan

FROM: Karen T. Dieckhaus, START Chemist, E & E, Taylor, Michigan

THROUGH: Michael L. Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT: Polychlorinated Biphenyl (PCB) Data Quality Assurance Review, Automotive Finishes Inc., Dearborn, Wayne County, Michigan

REFERENCE: Project TDD: S05-9612-010 Analytical TDD: S05-9612-805
Project PAN: 6D1001SIXX Analytical PAN: 6DAE01TAXX

The data quality assurance (QA) review of one waste-liquid sample, collected from the Automotive Finishes Inc. site, is complete. The sample was collected on December 26, 1996, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The sample was submitted to Brighton Analytical, Inc., Brighton, Michigan, for analyses of PCBs. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste-846 (SW-846) Method 8080 for the determination of PCB concentrations.

Sample Identification

START <u>Identification No.</u>	Laboratory <u>Identification No.</u>
AF-03	AJ02593

Data Qualifications

I. Holding Time: Acceptable

The sample was collected on December 26, 1996, and received by the laboratory on December 30, 1996. The sample was analyzed on January 6, 1997. All analyses were completed within the 14 days from collection to extraction and 40 days from extraction to analysis holding time

Automotive Finishes Inc.
Project TDD: S05-9612-010
Analytical TDD: S05-9612-805
PCB Quality Assurance Review
Page 2

specified in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01.

II. Instrument Performance: Acceptable

All raw chromatograms were reviewed for adequate peak resolution, and all had adequate resolution between peaks of each Aroclor standard. All retention time windows for the sample and check calibration standards were reported and compared to the standard chromatograms for agreement.

III. Calibration:

A. Initial Calibration: Acceptable

Three-point calibrations were performed for all Aroclors of interest. Percent relative standard deviations (%RSDs) for these Aroclors were less than or equal to 10%, except for Aroclor 1232, 1242, and 1260. None of the samples exhibited the fingerprint patterns for any of the Aroclors; thus, no action was deemed necessary for the nondetections.

B. Continuing Calibration: Acceptable

Continuing calibrations were performed for all Aroclors of interest. Percent differences (%D) for all Aroclors were less than or equal to 15%, except for Aroclor 1248. The sample submitted for analyses did not exhibit the fingerprint pattern for any of the Aroclors; thus no action was deemed necessary regarding the elevated %D for Aroclor 1248.

IV. Method Blank: Acceptable

Method blanks were analyzed on each day in the proper sequence, and all target compounds were below the instrument detection limits.

V. Compound Identification: Acceptable

The sample chromatogram was compared with standard chromatograms, and none appeared to have the associated fingerprint patterns for target Aroclors.

VI. Compound Quantitation and Reported Detection Limits: Acceptable

All reported detection limits have been correctly adjusted to reflect dilutions.

Automotive Finishes Inc.
Project TDD: S05-9612-010
Analytical TDD: S05-9612-805
PCB Quality Assurance Review
Page 3

VII. Overall Assessment of Data: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures, Section 7.0, PCBs, and Section 2.7, Quality Assurance Requirements. Based upon the information provided, the data are acceptable for use as reported.



M E M O R A N D U M

DATE: February 24, 1997

TO: Anne Hellie, START Project Manager, E & E, Taylor, Michigan

FROM: Karen T. Dieckhaus, START Chemist, E & E, Taylor, Michigan

THROUGH: Michael L. Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT: Semivolatile Organic Compound (SVOC) Data Quality Assurance Review, Automotive Finishes Inc., Dearborn, Wayne County, Michigan

REFERENCE: Project TDD: S05-9612-010 Analytical TDD: S05-9612-805
Project PAN: 6D1001SIXX Analytical PAN: 6DAE01TAXX

The data quality assurance (QA) review of eight waste-liquid samples, collected from the Automotive Finishes Inc. site, is complete. Samples were collected on December 26, 1996, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). Samples were submitted to Brighton Analytical, Inc., Brighton, Michigan, for analyses of SVOCs. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste-846 (SW-846) Method 8270 for the determination of SVOCs.

Sample Identification

<u>START Identification No.</u>	<u>Laboratory Identification No.</u>
AF-01	AJ02591
AF-02	AJ02592
AF-03	AJ02593
AF-04	AJ02594
AF-05	AJ02595
AF-06	AJ02596
AF-07	AJ02597
AF-08	AJ02598

Automotive Finishes Inc.
Project TDD: S05-9612-010
Analytical TDD: S05-9612-805
SVOC Quality Assurance Review
Page 2

Data Qualifications

I. Holding Time: Acceptable

Samples were collected on December 26, 1996, and received by the laboratory on December 30, 1996. Samples were extracted on January 3, 1997, and analyzed on January 6, 1997, for SVOCs. All analyses were completed within the 14 days from collection to extraction and 40 days from extraction to analysis holding times specified in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01.

II. Gas Chromatography/Mass Spectrometry (GC/MS) Tuning: Acceptable

Decafluorotriphenylphosphine (DFTPP) standards were analyzed within the required 12-hour time limit for all sample analyses on the same instrument used to analyze the samples, and the ion abundance criteria were met for each DFTPP standard.

III. Calibration:

A. Initial Calibration: Acceptable

All response factors (RFs) were greater than zero, and relative response factors (RRFs) for all parameters were at least 0.05 for the initial calibration. The percent relative standard deviations (%RSDs) were within the acceptable range of less than or equal to 30% for all SVOCs.

B. Continuing Calibration: Acceptable

All percent differences (%Ds) between the initial calibration and continuing calibration were within the recommended limits of less than or equal to 25% for all SVOCs.

IV. Internal Standards: Acceptable

All internal standard (IS) areas were within the specified limits (-50 to +100%) of the associated calibration standards. IS retention times (RTs) were within the plus-or-minus 30-second control limit.

V. Method Blanks: Acceptable

Method blanks were analyzed on the same instrument at the proper frequency. All target analytes were below the instrument detection limits.

Automotive Finishes Inc.
Project TDD: S05-9612-010
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VI. Compound Identification: Acceptable

All relative retention times (RRTs) were within 0.06 units of the standard RRTs.

VII. Compound Quantitation and Reported Detection Limits: Acceptable

All reported values have been correctly adjusted to reflect all dilutions.

VIII. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures; Section 4.0, BNAs by GC/MS Analysis; and Section 2.7, Quality Assurance Requirements. Based upon the information provided, the data are acceptable for use as reported.



ecology and environment, inc.

12251 UNIVERSAL, TAYLOR, MICHIGAN 48180, TEL. (313) 946-0900
International Specialists in the Environment

M E M O R A N D U M

DATE: February 24, 1997

TO: Anne Hellie, START Project Manager, E & E, Taylor, Michigan

FROM: Karen T. Dieckhaus, START Chemist, E & E, Taylor, Michigan

THROUGH: Michael L. Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT: Volatile Organic Compound (VOC) Data Quality Assurance Review, Automotive Finishes Inc., Dearborn, Wayne County, Michigan

REFERENCE: Project TDD: S05-9612-010 Analytical TDD: S05-9612-805
 Project PAN: 6D1001SIXX Analytical PAN: 6DAE01TAXX

The data quality assurance (QA) review of eight waste-liquid samples, collected from the Automotive Finishes Inc. site, is complete. Samples were collected on December 26, 1996, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). Samples were submitted to Brighton Analytical, Inc., Brighton, Michigan, for analyses of VOCs. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste-846 (SW-846) Method 8260 for the determination of VOC concentrations.

Sample Identification

<u>START Identification No.</u>	<u>Laboratory Identification No.</u>
AF-01	AJ02591
AF-02	AJ02592
AF-03	AJ02593
AF-04	AJ02594
AF-05	AJ02595
AF-06	AJ02596
AF-07	AJ02597
AF-08	AJ02598

Automotive Finishes Inc.
Project TDD: S05-9612-010
Analytical TDD: S05-9612-805
VOC Quality Assurance Review
Page 2

Data Qualifications

I. Holding Time: Acceptable

Samples were collected on December 26, 1996, and received by the laboratory on December 30, 1996. Samples were analyzed on January 8, 1997, for VOCs. All analyses were completed within the 14 days holding time specified in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01.

II. Gas Chromatography/Mass Spectrometry (GC/MS) Tuning: Acceptable

A bromofluorobenzene (BFB) performance standard was analyzed within the 12-hour time limit on the same instrument used to analyze the samples, and ion abundance criteria were met.

III. Calibration:

A. Initial Calibration: Acceptable

All response factors (RFs) were greater than zero, and relative response factors (RRFs) for all parameters were at least 0.05 for the initial calibration. The percent relative standard deviations (%RSDs) were within the acceptable range of less than or equal to 30% for all VOCs.

B. Continuing Calibration: Not Evaluated

The laboratory did not need to perform continuing calibration because the initial calibration was performed immediately prior to sample analyses. Reference standard recoveries were within 10% of their true values.

IV. Internal Standards: Acceptable

All internal standard (IS) areas were within the specified limits (-50 to +100%) of the associated calibration standards. IS retention times (RTs) were within the plus-or-minus 30-second control limit.

V. Method Blank: Acceptable

A method blank was analyzed on the same instrument at the proper frequency. All target analytes were below the instrument detection limits.

Automotive Finishes Inc.
Project TDD: S05-9612-010
Analytical TDD: S05-9612-805
VOC Quality Assurance Review
Page 3

VI. Compound Identification: Acceptable

All relative retention times (RRTs) were within 0.06 units of the standard RRTs.

VII. Compound Quantitation and Reported Detection Limits: Acceptable

All reported values have been correctly adjusted to reflect all dilutions.

VIII. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures; Section 5.0, Volatiles by GC/MS Analysis; and Section 2.7, Quality Assurance Requirements. Based upon the information provided, the data are acceptable for use as reported.



ecology and environment, inc.

12251 UNIVERSAL, TAYLOR, MICHIGAN 48180, TEL. (313) 946-0900
International Specialists in the Environment

M E M O R A N D U M

DATE: February 19, 1997

TO: Anne Hellie, START Project Manager, E & E, Taylor, Michigan

FROM: Karen T. Dieckhaus, START Chemist, E & E, Taylor, Michigan

THROUGH: Michael L. Dieckhaus, START Assistant Program Manager, E & E, Taylor, Michigan
David Hendren, START Quality Assurance Officer, E & E, Chicago, Illinois

SUBJECT: Miscellaneous Analytical Data Quality Assurance Review for Flash Point, Automotive Finishes Inc., Dearborn, Wayne County, Michigan

REFERENCE: Project TDD: S05-9612-010 Analytical TDD: S05-9612-805
Project PAN: 6D1001SIXX Analytical PAN: 6DAE01TAXX

The data quality assurance (QA) review of eight waste-liquid samples, collected from the Automotive Finishes Inc. site, is complete. Samples were collected on December 26, 1996, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). Samples were submitted to Brighton Analytical, Inc., Brighton, Michigan, for analyses of flash points. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste-846 (SW-846) Method 1010 for the determination of flash points.

Sample Identification

<u>START Identification No.</u>	<u>Laboratory Identification No.</u>
AF-01	AJ02591
AF-02	AJ02592
AF-03	AJ02593
AF-04	AJ02594
AF-05	AJ02595
AF-06	AJ02596
AF-07	AJ02597
AF-08	AJ02598

Automotive Finishes Inc.
Project TDD: S05-9612-010
Analytical TDD: S05-9612-805
Ignitability
Page 2

Data Qualifications

I. Holding Time: Acceptable

Samples were collected on December 26, 1996, and received by the laboratory on December 30, 1996. Samples were analyzed on January 16, 1997. The Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 does not specify specific holding times for flash point. Samples were collected and stored in closed glass containers, and in this reviewer's professional judgement, sample integrity was not compromised.

II. Quality Control: Acceptable

A standard for flash point, n-butyl alcohol, was analyzed with the samples. The standard was plus 5 degrees Fahrenheit (°F) of the standards' true value upper range (90°F).

III. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on the criteria outlined in OSWER Directive 9360.4-01 (April 1990), Generic Data Validation Procedures, Section 9.0, Non-Metal Inorganic Parameters; and Section 2.7, Quality Assurance Requirements. Based upon the information provided, the data are acceptable for use as reported.



TM

Brighton Analytical, Inc.

2105 Pless Drive

Brighton, Michigan 48116

Phone: (810)229-7575 FAX: (810)229-8650

Date: 01/10/97

Date Submitted: 12/30/96

Date Sampled: 12/26/96

To: Ecology & Environment, Inc.
33N. Dearborn
Suite 900
Chicago, IL 60602

BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-01

BA Sample ID: AJ02591

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Volatile Analysis						
Acetone	Not detected	ug/Kg	200000	SW846 8260	MC	01/08/97
Benzene	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Benzyl chloride	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Bromodichloromethane	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Bromoform	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Bromomethane	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
2-Butanone (MEK)	Not detected	ug/Kg	200000	SW846 8260	MC	01/08/97
Carbon disulfide	Not detected	ug/Kg	200000	SW846 8260	MC	01/08/97
Carbon tetrachloride	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Chlorobenzene	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Chloroethane	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Chloroform	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Chloromethane	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Dibromomethane	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
1,2-Dichlorobenzene	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
1,3-Dichlorobenzene	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-01

BA Sample ID: AJ02591

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
1,4-Dichlorobenzene	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
1,1-Dichloroethane	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
1,2-Dichloroethane	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
1,1-Dichloroethene	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
cis-1,2-Dichloroethene	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
trans-1,2-Dichloroethene	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Dichlorodifluoromethane	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
1,2-Dichloropropane	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
cis-1,3-Dichloropropene	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
trans-1,3-Dichloropropene	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Dibromochloromethane	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Diethyl ether	Not detected	ug/Kg	200000	SW846 8260	MC	01/08/97
Ethyl benzene	57000	ug/Kg	20000	SW846 8260	MC	01/08/97
2-Hexanone	Not detected	ug/Kg	200000	SW846 8260	MC	01/08/97
Methylene chloride	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
4-Methyl-2-pentanone(MIBK)	Not detected	ug/Kg	200000	SW846 8260	MC	01/08/97
Methyl(tert)butyl ether(MTBE)	Not detected	ug/Kg	200000	SW846 8260	MC	01/08/97
Styrene	1400000*	ug/Kg	20000	SW846 8260	MC	01/08/97
1,1,1,2-Tetrachloroethane	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
1,1,2,2-Tetrachloroethane	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Tetrachloroethene	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Toluene	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
1,1,1-Trichloroethane	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
1,1,2-Trichloroethane	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Trichloroethene	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Trichlorofluoromethane	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-01

BA Sample ID: AJ02591

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Vinyl acetate	Not detected	ug/Kg	200000	SW846 8260	MC	01/08/97
Vinyl chloride	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Xylenes	290000	ug/Kg	60000	SW846 8260	MC	01/08/97
Volatile Rerun						
Styrene	2900000	ug/Kg	20000	SW846 8260	MC	01/08/97
Semi-Volatile Analysis						
Acenaphthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Acenaphthylene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzidine	Not detected	ug/Kg	5000	SW846 8270	MC	01/06/97
Benzoic acid	Not detected	ug/Kg	5000	SW846 8270	MC	01/06/97
Benzo(a)anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(b)fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(k)fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(g,h,i)perylene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(a)pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzyl alcohol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroethoxy)methane	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroethyl)ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroisopropyl)ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-ethylhexyl)phthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Bromophenyl phenyl ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Butyl benzyl phthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Chloroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2-Chloronaphthalene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-01

BA Sample ID: AJ02591

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
4-Chloro-3-methylphenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Chlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Chlorophenyl phenyl ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Chrysene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dibenzo(a,h)anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dibenzofuran	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Di-n-butylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
1,2-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
1,3-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
1,4-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
3,3'-Dichlorobenzidine	Not detected	ug/Kg	2000	SW846 8270	MC	01/06/97
2,4-Dichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,6-Dichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Diethylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,4-Dimethylphenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dimethylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4,6-Dinitro-2-methylphenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4-Dinitrophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4-Dinitrotoluene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,6-Dinitrotoluene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Di-n-octylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
1,2-Diphenylhydrazine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Fluorene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Hexachlorobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-01

BA Sample ID: AJ02591

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Hexachlorobutadiene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Hexachlorocyclopentadiene	Not detected	ug/Kg	200	SW846 8270	MC	01/06/97
Hexachloroethane	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Indeno(1,2,3-cd)pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Isophorone	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Methylnaphthalene	220	ug/Kg	330	SW846 8270	MC	01/06/97
2-Methylphenol (o-Cresol)	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Methylphenol (p-Cresol)	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Naphthalene	790	ug/Kg	330	SW846 8270	MC	01/06/97
2-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
3-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
4-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
Nitrobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Nitrophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-01

BA Sample ID: AJ02591

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
4-Nitrophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
N-Nitrosodimethylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
N-Nitrosophenylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
N-Nitrosodi-n-propylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Pentachlorophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
Phenanthrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Phenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
1,2,4-Trichlorobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,4,5-Trichlorophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4,6-Trichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97

DL=Detection Limit as recommended by MDEQ.

Released by:

Date:

9/10/97

Elevated Volatile dl due to dilution.

*Over range and to be rerun.



TM

Brighton Analytical, Inc.

2105 Pless Drive

Brighton, Michigan 48116

Phone: (810)229-7575 FAX: (810)229-8650

Date: 01/10/97

Date Submitted: 12/30/96

Date Sampled: 12/26/96

To: Ecology & Environment, Inc.
33N. Dearborn
Suite 900
Chicago, IL 60602

BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-02

BA Sample ID: AJ02592

Project Number: KJS102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Volatile Analysis						
Acetone	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Benzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Benzyl chloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Bromodichloromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Bromoform	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Bromomethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
2-Butanone (MEK)	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Carbon disulfide	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Carbon tetrachloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chloroform	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chloromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Dibromomethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,2-Dichlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,3-Dichlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-02

BA Sample ID: AJ02592

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
1,4-Dichlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1-Dichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,2-Dichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1-Dichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
cis-1,2-Dichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
trans-1,2-Dichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Dichlorodifluoromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,2-Dichloropropane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
cis-1,3-Dichloropropene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
trans-1,3-Dichloropropene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Dibromochloromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Diethyl ether	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Ethyl benzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
2-Hexanone	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Methylene chloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
4-Methyl-2-pentanone(MIBK)	4500000*	ug/Kg	20000	SW846 8260	MC	01/08/97
Methyl(tert)butyl ether(MTBE)	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Styrene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,1,2-Tetrachloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,2,2-Tetrachloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Tetrachloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Toluene	110000	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,1-Trichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,2-Trichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Trichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Trichlorofluoromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-02

BA Sample ID: AJ02592

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Vinyl acetate	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Vinyl chloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Xylenes	Not detected	ug/Kg	6000	SW846 8260	MC	01/08/97
Volatile Rerun						
4-Methyl-2-pentanone(MIBK)	6700000	ug/Kg	200000	SW846 8260	MC	01/08/97
Semi-Volatile Analysis						
Acenaphthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Acenaphthylene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzidine	Not detected	ug/Kg	5000	SW846 8270	MC	01/06/97
Benzoic acid	Not detected	ug/Kg	5000	SW846 8270	MC	01/06/97
Benzo(a)anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(b)fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(k)fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(g,h,i)perylene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(a)pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzyl alcohol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroethoxy)methane	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroethyl)ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroisopropyl)ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-ethylhexyl)phthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Bromophenyl phenyl ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Butyl benzyl phthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Chloroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2-Chloronaphthalene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-02

BA Sample ID: AJ02592

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
4-Chloro-3-methylphenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Chlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Chlorophenyl phenyl ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Chrysene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dibenzo(a,h)anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dibenzofuran	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Di-n-butylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
1,2-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
1,3-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
1,4-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
3,3'-Dichlorobenzidine	Not detected	ug/Kg	2000	SW846 8270	MC	01/06/97
2,4-Dichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,6-Dichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Diethylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,4-Dimethylphenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dimethylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4,6-Dinitro-2-methylphenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4-Dinitrophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4-Dinitrotoluene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,6-Dinitrotoluene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Di-n-octylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
1,2-Diphenylhydrazine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Fluorene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Hexachlorobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-02

BA Sample ID: AJ02592

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Hexachlorobutadiene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Hexachlorocyclopentadiene	Not detected	ug/Kg	200	SW846 8270	MC	01/06/97
Hexachloroethane	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Indeno(1,2,3-cd)pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Isophorone	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Methylnaphthalene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Methylphenol (o-Cresol)	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Methylphenol (p-Cresol)	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Naphthalene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
3-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
4-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
Nitrobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Nitrophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-02

BA Sample ID: AJ02592

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
4-Nitrophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
N-Nitrosodimethylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
N-Nitrosophenylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
N-Nitrosodi-n-propylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Pentachlorophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
Phenanthrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Phenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
1,2,4-Trichlorobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,4,5-Trichlorophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4,6-Trichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97

DL=Detection Limit as recommended by MDEQ.

Released by:

A handwritten signature in black ink, appearing to read "Jeffrey S." or "Jeffrey S. [signature]".

Date:

A handwritten signature in black ink, appearing to read "8/10/97".

Elevated volatile dl due to dilution.

*Over range and to be rerun.



TM

Brighton Analytical, Inc.

2105 Pless Drive

Brighton, Michigan 48116

Phone: (810)229-7575 FAX: (810)229-8650

Date: 01/10/97

Date Submitted: 12/30/96

Date Sampled: 12/26/96

To: Ecology & Environment, Inc.
33N. Dearborn
Suite 900
Chicago, IL 60602

Sample ID: AF-03

BA Report Number: 19793

Project Name: 505-9612-805 & 010

BA Sample ID: AJ02593

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Metal Analysis						
Total Arsenic	0.54	mg/Kg	0.10	SW846 7060	GW	01/06/97
Total Barium	410	mg/Kg	1.0	SW846 6010	GW	01/06/97
Total Cadmium	0.69	mg/Kg	0.050	SW846 6010	GW	01/06/97
Total Chromium	350	mg/Kg	0.2	SW846 6010	GW	01/06/97
Total Copper	32	mg/Kg	1.0	SW846 6010	GW	01/06/97
Total Lead	240	mg/Kg	1.0	SW846 6010	GW	01/06/97
Total Mercury	0.21	mg/Kg	0.10	SW846 7471	GW	01/06/97
Total Selenium	Not detected	mg/Kg	0.50	SW846 7740	GW	01/06/97
Total Silver	Not detected	mg/Kg	0.50	SW846 6010	GW	01/06/97
Total Zinc	1400	mg/Kg	1.0	SW846 6010	GW	01/06/97
Metal Soil (digestion)	Digested				GW	01/04/97
Mercury (digestion)	Digested				GW	01/06/97
PCB Analysis						
ARO 1016	Not detected	ug/Kg	330	SW846 8080	MC	01/06/97
ARO 1221	Not detected	ug/Kg	330	SW846 8080	MC	01/06/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-03

BA Sample ID: AJ02593

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
ARO 1232	Not detected	ug/Kg	330	SW846 8080	MC	01/06/97
ARO 1242	Not detected	ug/Kg	330	SW846 8080	MC	01/06/97
ARO 1248	Not detected	ug/Kg	330	SW846 8080	MC	01/06/97
ARO 1254	Not detected	ug/Kg	330	SW846 8080	MC	01/06/97
ARO 1260	Not detected	ug/Kg	330	SW846 8080	MC	01/06/97
Volatile Analysis						
Acetone	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Benzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Benzyl chloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Bromodichloromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Bromoform	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Bromomethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
2-Butanone (MEK)	8700000*	ug/Kg	20000	SW846 8260	MC	01/08/97
Carbon disulfide	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Carbon tetrachloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chloroform	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chloromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Dibromomethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,2-Dichlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,3-Dichlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,4-Dichlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1-Dichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,2-Dichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1-Dichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-03

BA Sample ID: AJ02593

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
cis-1,2-Dichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
trans-1,2-Dichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Dichlorodifluoromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,2-Dichloropropane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
cis-1,3-Dichloropropene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
trans-1,3-Dichloropropene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Dibromochloromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Diethyl ether	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Ethyl benzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
2-Hexanone	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Methylene chloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
4-Methyl-2-pentanone(MIBK)	9000000*	ug/Kg	20000	SW846 8260	MC	01/08/97
Methyl(tert)butyl ether(MTBE)	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Styrene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,1,2-Tetrachloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,2,2-Tetrachloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Tetrachloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Toluene	3200000*	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,1-Trichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,2-Trichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Trichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Trichlorofluoromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Vinyl acetate	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Vinyl chloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Xylenes	Not detected	ug/Kg	6000	SW846 8260	MC	01/08/97
Volatile Rerun						



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-03

BA Sample ID: AJ02593

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
2-Butanone (MEK)	9500000	ug/Kg	1000000	SW846 8260	MC	01/08/97
4-Methyl-2-pentanone(MIBK)	12000000	ug/Kg	1000000	SW846 8260	MC	01/08/97
Toluene	4800000	ug/Kg	100000	SW846 8260	MC	01/08/97
Semi-Volatile Analysis						
Acenaphthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Acenaphthylene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzidine	Not detected	ug/Kg	5000	SW846 8270	MC	01/06/97
Benzoic acid	Not detected	ug/Kg	5000	SW846 8270	MC	01/06/97
Benzo(a)anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(b)fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(k)fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(g,h,i)perylene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(a)pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzyl alcohol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroethoxy)methane	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroethyl)ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroisopropyl)ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-ethylhexyl)phthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Bromophenyl phenyl ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Butyl benzyl phthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Chloroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2-Chloronaphthalene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Chloro-3-methylphenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Chlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Chlorophenyl phenyl ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-03

BA Sample ID: AJ02593

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Chrysene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dibenzo(a,h)anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dibenzofuran	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Di-n-butylphthalate	2600	ug/Kg	330	SW846 8270	MC	01/06/97
1,2-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
1,3-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
1,4-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
3,3'-Dichlorobenzidine	Not detected	ug/Kg	2000	SW846 8270	MC	01/06/97
2,4-Dichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,6-Dichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Diethylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,4-Dimethylphenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dimethylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4,6-Dinitro-2-methylphenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4-Dinitrophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4-Dinitrotoluene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,6-Dinitrotoluene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Di-n-octylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
1,2-Diphenylhydrazine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Fluorene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Hexachlorobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Hexachlorobutadiene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Hexachlorocyclopentadiene	Not detected	ug/Kg	200	SW846 8270	MC	01/06/97
Hexachloroethane	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Indeno(1,2,3-cd)pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-03

BA Sample ID: AJ02593

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Isophorone	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Methylnaphthalene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Methylphenol (o-Cresol)	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Methylphenol (p-Cresol)	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Naphthalene	4900	ug/Kg	330	SW846 8270	MC	01/06/97
2-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
3-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
4-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
Nitrobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Nitrophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Nitrophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
N-Nitrosodimethylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
N-Nitrosophenylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
N-Nitrosodi-n-propylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Pentachlorophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-03

BA Sample ID: AJ02593

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Phenanthrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Phenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
1,2,4-Trichlorobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,4,5-Trichlorophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4,6-Trichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
%Solid	52.1	%		ASTM D-2216	PS	01/03/97

All soil results based on dry weight.

DL=Detection Limit as recommended by MDEQ.

Released by:

Date:

Elevated volatile dl's due to dilution.

*Over range and to be rerun.



TM

Brighton Analytical, Inc.

2105 Pless Drive

Brighton, Michigan 48116

Phone: (810)229-7575 FAX: (810)229-8650

Date: 01/10/97

To: Ecology & Environment, Inc.

33N. Dearborn

Suite 900

Chicago, IL 60602

Date Submitted: 12/30/96

Date Sampled: 12/26/96

Sample ID: AF-04**BA Report Number: 19793****Project Name: 505-9612-805 & 010****BA Sample ID: AJ02594****Project Number: KJ5102**

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Volatile Analysis						
Acetone	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Benzene	30000	ug/Kg	2000	SW846 8260	MC	01/08/97
Benzyl chloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Bromodichloromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Bromoform	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Bromomethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
2-Butanone (MEK)	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Carbon disulfide	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Carbon tetrachloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chloroform	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chloromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Dibromomethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,2-Dichlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,3-Dichlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

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Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
1,4-Dichlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1-Dichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,2-Dichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1-Dichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
cis-1,2-Dichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
trans-1,2-Dichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Dichlorodifluoromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,2-Dichloropropane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
cis-1,3-Dichloropropene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
trans-1,3-Dichloropropene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Dibromochloromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Diethyl ether	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Ethyl benzene	78000	ug/Kg	2000	SW846 8260	MC	01/08/97
2-Hexanone	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Methylene chloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
4-Methyl-2-pentanone(MIBK)	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Methyl(tert)butyl ether(MTBE)	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Styrene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,1,2-Tetrachloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,2,2-Tetrachloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Tetrachloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Toluene	21000000*	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,1-Trichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,2-Trichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Trichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Trichlorofluoromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97



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Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Vinyl acetate	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Vinyl chloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Xylenes	130000	ug/Kg	6000	SW846 8260	MC	01/08/97
Volatile Rerun 1						
Toluene	370000000*	ug/Kg	200000	SW846 8260	MC	01/08/97
Volatile Rerun 2						
Toluene	980000000	ug/Kg	10000000	SW846 8260	MC	01/08/97
Semi-Volatile Analysis						
Acenaphthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Acenaphthylene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzidine	Not detected	ug/Kg	5000	SW846 8270	MC	01/06/97
Benzoic acid	Not detected	ug/Kg	5000	SW846 8270	MC	01/06/97
Benzo(a)anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(b)fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(k)fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(g,h,i)perylene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(a)pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzyl alcohol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroethoxy)methane	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroethyl)ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroisopropyl)ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-ethylhexyl)phthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Bromophenyl phenyl ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Butyl benzyl phthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97



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Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
4-Chloroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2-Chloronaphthalene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Chloro-3-methylphenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Chlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Chlorophenyl phenyl ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Chrysene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dibenzo(a,h)anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dibenzofuran	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Di-n-butylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
1,2-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
1,3-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
1,4-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
3,3'-Dichlorobenzidine	Not detected	ug/Kg	2000	SW846 8270	MC	01/06/97
2,4-Dichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,6-Dichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Diethylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,4-Dimethylphenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dimethylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4,6-Dinitro-2-methylphenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4-Dinitrophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4-Dinitrotoluene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,6-Dinitrotoluene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Di-n-octylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
1,2-Diphenylhydrazine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97



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Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Fluorene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Hexachlorobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Hexachlorobutadiene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Hexachlorocyclopentadiene	Not detected	ug/Kg	200	SW846 8270	MC	01/06/97
Hexachloroethane	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Indeno(1,2,3-cd)pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Isophorone	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Methylnaphthalene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Methylphenol (o-Cresol)	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Methylphenol (p-Cresol)	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Naphthalene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
3-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
4-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97



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Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Nitrobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Nitrophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Nitrophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
N-Nitrosodimethylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
N-Nitrosophenylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
N-Nitrosodi-n-propylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Pentachlorophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
Phenanthrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Phenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
1,2,4-Trichlorobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,4,5-Trichlorophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4,6-Trichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97

DL=Detection Limit as recommended by MDEQ.

Released by:

Date:

letoxol
1/10/97

Elevated Volatile dl due to dilution.

*Over range and to be rerun.



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-05

BA Sample ID: AJ02595

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
1,4-Dichlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1-Dichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,2-Dichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1-Dichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
cis-1,2-Dichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
trans-1,2-Dichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Dichlorodifluoromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,2-Dichloropropane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
cis-1,3-Dichloropropene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
trans-1,3-Dichloropropene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Dibromochloromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Diethyl ether	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Ethyl benzene	39000	ug/Kg	2000	SW846 8260	MC	01/08/97
2-Hexanone	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Methylene chloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
4-Methyl-2-pentanone(MIBK)	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Methyl(tert)butyl ether(MTBE)	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Styrene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,1,2-Tetrachloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,2,2-Tetrachloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Tetrachloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Toluene	140000	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,1-Trichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,2-Trichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Trichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Trichlorofluoromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Vinyl acetate	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97

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Sample ID: AF-05

BA Sample ID: AJ02595

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Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Vinyl chloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Xylenes	110000	ug/Kg	6000	SW846 8260	MC	01/08/97
Semi-Volatile Analysis						
Acenaphthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Acenaphthylene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzidine	Not detected	ug/Kg	5000	SW846 8270	MC	01/06/97
Benzoic acid	Not detected	ug/Kg	5000	SW846 8270	MC	01/06/97
Benzo(a)anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(b)fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(k)fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(g,h,i)perylene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(a)pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzyl alcohol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroethoxy)methane	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroethyl)ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroisopropyl)ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-ethylhexyl)phthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Bromophenyl phenyl ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Butyl benzyl phthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Chloroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2-Chloronaphthalene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Chloro-3-methylphenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Chlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Chlorophenyl phenyl ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Chrysene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97

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Project Name: 505-9612-805 & 010

Sample ID: AF-05

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Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Dibenzo(a,h)anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dibenzofuran	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Di-n-butylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
1,2-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
1,3-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
1,4-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
3,3'-Dichlorobenzidine	Not detected	ug/Kg	2000	SW846 8270	MC	01/06/97
2,4-Dichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,6-Dichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Diethylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,4-Dimethylphenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dimethylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4,6-Dinitro-2-methylphenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4-Dinitrophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4-Dinitrotoluene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,6-Dinitrotoluene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Di-n-octylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
1,2-Diphenylhydrazine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Fluorene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Hexachlorobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Hexachlorobutadiene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Hexachlorocyclopentadiene	Not detected	ug/Kg	200	SW846 8270	MC	01/06/97
Hexachloroethane	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Indeno(1,2,3-cd)pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Isophorone	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97



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Sample ID: AF-05

BA Sample ID: AJ02595

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
2-Methylnaphthalene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Methylphenol (o-Cresol)	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Methylphenol (p-Cresol)	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Naphthalene	120	ug/Kg	330	SW846 8270	MC	01/06/97
2-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
3-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
4-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
Nitrobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Nitrophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Nitrophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
N-Nitrosodimethylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
N-Nitrosophenylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
N-Nitrosodi-n-propylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Pentachlorophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
Phenanthrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Phenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-05

BA Sample ID: AJ02595

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
1,2,4-Trichlorobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,4,5-Trichlorophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4,6-Trichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97

DL=Detection Limit as recommended by MDEQ.

Released by:

Date:

Jeff Gaskin
5/10/97

Elevated volatile dl due to dilution.



TM

Brighton Analytical, Inc.

2105 Pless Drive

Brighton, Michigan 48116

Phone: (810)229-7575 FAX: (810)229-8650

Date: 01/13/97

Date Submitted: 12/30/96

Date Sampled: 12/26/96

To: Ecology & Environment, Inc.
33N. Dearborn
Suite 900
Chicago, IL 60602

BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-06

BA Sample ID: AJ02596

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Metal Analysis						
Total Arsenic	Not detected	mg/L	0.5	EPA 206.2	GW	01/06/97
Total Barium	3.2	mg/L	0.20	EPA 200.7	GW	01/05/97
Total Cadmium	0.059	mg/L	0.0002	EPA 213.2	DB	01/10/97
Total Chromium	Not detected	mg/L	0.025	EPA 200.7	GW	01/05/97
Total Copper	150	mg/L	0.02	EPA 200.7	GW	01/05/97
Total Lead	290000	mg/L	0.003	EPA 200.7	DB	01/10/97
Total Mercury	Not detected	mg/L	0.01	EPA 245.1	GW	01/06/97
Total Selenium	Not detected	mg/L	0.5	EPA 270.2	GW	01/06/97
Total Silver	Not detected	mg/L	0.025	EPA 272.2	DB	01/10/97
Total Zinc	23	mg/L	0.02	EPA 200.7	GW	01/05/97
Mercury (digestion)	Digested				GW	01/06/97
Metal Water Total (digestion)	Digested				GW	01/04/97
Volatile Analysis						
Acetone	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Benzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-06

BA Sample ID: AJ02596

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Benzyl chloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Bromodichloromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Bromoform	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Bromomethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
2-Butanone (MEK)	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Carbon disulfide	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Carbon tetrachloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chloroform	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chloromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Dibromomethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,2-Dichlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,3-Dichlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,4-Dichlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1-Dichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,2-Dichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1-Dichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
cis-1,2-Dichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
trans-1,2-Dichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Dichlorodifluoromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,2-Dichloropropane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
cis-1,3-Dichloropropene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
trans-1,3-Dichloropropene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Dibromochloromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Diethyl ether	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-06

BA Sample ID: AJ02596

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Ethyl benzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
2-Hexanone	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Methylene chloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
4-Methyl-2-pentanone(MIBK)	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Methyl(tert)butyl ether(MTBE)	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Styrene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,1,2-Tetrachloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,2,2-Tetrachloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Tetrachloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Toluene	200000	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,1-Trichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,2-Trichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Trichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Trichlorofluoromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Vinyl acetate	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Vinyl chloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Xylenes	910000*	ug/Kg	6000	SW846 8260	MC	01/08/97
Volatile Rerun						
Toluene	280000	ug/Kg	10	SW846 8260	MC	01/08/97
Xylenes	2100000	ug/Kg	30	SW846 8260	MC	01/08/97
Semi-Volatile Analysis						
Acenaphthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Acenaphthylene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzidine	Not detected	ug/Kg	5000	SW846 8270	MC	01/06/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-06

BA Sample ID: AJ02596

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Benzoic acid	Not detected	ug/Kg	5000	SW846 8270	MC	01/06/97
Benzo(a)anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(b)fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(k)fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(g,h,i)perylene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(a)pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzyl alcohol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroethoxy)methane	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroethyl)ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroisopropyl)ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-ethylhexyl)phthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Bromophenyl phenyl ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Butyl benzyl phthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Chloroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2-Chloronaphthalene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Chloro-3-methylphenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Chlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Chlorophenyl phenyl ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Chrysene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dibenzo(a,h)anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dibenzofuran	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Di-n-butylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
1,2-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
1,3-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
1,4-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-06

BA Sample ID: AJ02596

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
3,3'-Dichlorobenzidine	Not detected	ug/Kg	2000	SW846 8270	MC	01/06/97
2,4-Dichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,6-Dichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Diethylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,4-Dimethylphenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dimethylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4,6-Dinitro-2-methylphenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4-Dinitrophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4-Dinitrotoluene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,6-Dinitrotoluene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Di-n-octylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
1,2-Diphenylhydrazine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Fluorene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Hexachlorobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Hexachlorobutadiene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Hexachlorocyclopentadiene	Not detected	ug/Kg	200	SW846 8270	MC	01/06/97
Hexachloroethane	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Indeno(1,2,3-cd)pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Isophorone	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Methylnaphthalene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Methylphenol (o-Cresol)	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Methylphenol (p-Cresol)	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Naphthalene	610	ug/Kg	330	SW846 8270	MC	01/06/97
2-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-06

BA Sample ID: AJ02596

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
3-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
4-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
Nitrobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Nitrophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Nitrophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
N-Nitrosodimethylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
N-Nitrosophenylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
N-Nitrosodi-n-propylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Pentachlorophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
Phenanthrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Phenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
1,2,4-Trichlorobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,4,5-Trichlorophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-06

BA Sample ID: AJ02596

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
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2,4,6-Trichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
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DL=Detection Limit as recommended by MDEQ.

Released by:

Date:

1/13/97

Elevated metal dl's due to sample matrix.

Elevated volatile dl's to dilution.

*Over range and to be rerun.



Brighton Analytical, Inc.

2105 Pless Drive

Brighton, Michigan 48116

Phone: (810)229-7575 FAX: (810)229-8650

Date: 01/10/97

To: Ecology & Environment, Inc.

33N. Dearborn

Suite 900

Chicago, IL 60602

Date Submitted: 12/30/96

Date Sampled: 12/26/96

Sample ID: AF-07

BA Report Number: 19793

Project Name: 505-9612-805 & 010

BA Sample ID: AJ02597

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Volatile Analysis						
Acetone	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Benzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Benzyl chloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Bromodichloromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Bromoform	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Bromomethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
2-Butanone (MEK)	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Carbon disulfide	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Carbon tetrachloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chloroform	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chloromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Dibromomethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,2-Dichlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,3-Dichlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-07

BA Sample ID: AJ02597

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Dibenzo(a,h)anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dibenzofuran	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Di-n-butylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
1,2-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
1,3-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
1,4-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
3,3'-Dichlorobenzidine	Not detected	ug/Kg	2000	SW846 8270	MC	01/06/97
2,4-Dichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,6-Dichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Diethylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,4-Dimethylphenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dimethylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4,6-Dinitro-2-methylphenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4-Dinitrophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4-Dinitrotoluene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,6-Dinitrotoluene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Di-n-octylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
1,2-Diphenylhydrazine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Fluorene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Hexachlorobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Hexachlorobutadiene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Hexachlorocyclopentadiene	Not detected	ug/Kg	200	SW846 8270	MC	01/06/97
Hexachloroethane	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Indeno(1,2,3-cd)pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Isophorone	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-07

BA Sample ID: AJ02597

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
2-Methylnaphthalene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Methylphenol (o-Cresol)	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Methylphenol (p-Cresol)	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Naphthalene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
3-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
4-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
Nitrobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Nitrophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Nitrophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
N-Nitrosodimethylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
N-Nitrosophenylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
N-Nitrosodi-n-propylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Pentachlorophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
Phenanthrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Phenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-07

BA Sample ID: AJ02597

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
1,2,4-Trichlorobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,4,5-Trichlorophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4,6-Trichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97

DL=Detection Limit as recommended by MDEQ.

Released by:

Date:

*leighton**1/10/97*

Elevated Volatile dl due to dilution.



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-07

BA Sample ID: AJ02597

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
1,4-Dichlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1-Dichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,2-Dichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1-Dichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
cis-1,2-Dichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
trans-1,2-Dichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Dichlorodifluoromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,2-Dichloropropane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
cis-1,3-Dichloropropene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
trans-1,3-Dichloropropene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Dibromochloromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Diethyl ether	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Ethyl benzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
2-Hexanone	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Methylene chloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
4-Methyl-2-pentanone(MIBK)	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Methyl(tert)butyl ether(MTBE)	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Styrene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,1,2-Tetrachloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,2,2-Tetrachloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Tetrachloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Toluene	5600	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,1-Trichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,2-Trichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Trichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Trichlorofluoromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Vinyl acetate	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-07

BA Sample ID: AJ02597

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Vinyl chloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Xylenes	67000	ug/Kg	6000	SW846 8260	MC	01/08/97
Semi-Volatile Analysis						
Acenaphthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Acenaphthylene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzidine	Not detected	ug/Kg	5000	SW846 8270	MC	01/06/97
Benzoic acid	Not detected	ug/Kg	5000	SW846 8270	MC	01/06/97
Benzo(a)anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(b)fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(k)fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(g,h,i)perylene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(a)pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzyl alcohol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroethoxy)methane	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroethyl)ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroisopropyl)ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-ethylhexyl)phthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Bromophenyl phenyl ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Butyl benzyl phthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Chloroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2-Chloronaphthalene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Chloro-3-methylphenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Chlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Chlorophenyl phenyl ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Chrysene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97



TM

Brighton Analytical, Inc.

2105 Pless Drive

Brighton, Michigan 48116

Phone: (810)229-7575 FAX: (810)229-8650

Date: 01/10/97

Date Submitted: 12/30/96

Date Sampled: 12/26/96

To: Ecology & Environment, Inc.
33N. Dearborn
Suite 900
Chicago, IL 60602

Sample ID: AF-08	BA Report Number: 19793	Project Name: 505-9612-805 & 010				
Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Volatile Analysis						
Acetone	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Benzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Benzyl chloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Bromodichloromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Bromoform	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Bromomethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
2-Butanone (MEK)	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Carbon disulfide	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Carbon tetrachloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chloroform	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Chloromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Dibromomethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,2-Dichlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,3-Dichlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-08

BA Sample ID: AJ02598

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
1,4-Dichlorobenzene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1-Dichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,2-Dichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1-Dichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
cis-1,2-Dichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
trans-1,2-Dichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Dichlorodifluoromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,2-Dichloropropane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
cis-1,3-Dichloropropene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
trans-1,3-Dichloropropene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Dibromochloromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Diethyl ether	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Ethyl benzene	17000000*	ug/Kg	2000	SW846 8260	MC	01/08/97
2-Hexanone	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Methylene chloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
4-Methyl-2-pentanone(MIBK)	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Methyl(tert)butyl ether(MTBE)	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97
Styrene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,1,2-Tetrachloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,2,2-Tetrachloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Tetrachloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Toluene	130000	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,1-Trichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
1,1,2-Trichloroethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Trichloroethene	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Trichlorofluoromethane	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Vinyl acetate	Not detected	ug/Kg	20000	SW846 8260	MC	01/08/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-08

BA Sample ID: AJ02598

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Vinyl chloride	Not detected	ug/Kg	2000	SW846 8260	MC	01/08/97
Xylenes	18000000*	ug/Kg	6000	SW846 8260	MC	01/08/97
Volatile Rerun 1						
Ethyl benzene	12000000*	ug/Kg	20000	SW846 8260	MC	01/08/97
Xylenes	44000000*	ug/Kg	60000	SW846 8260	MC	01/08/97
Volatile Rerun 2						
Ethyl benzene	13000000	ug/Kg	200000	SW846 8260	MC	01/08/97
Xylenes	43000000	ug/Kg	600000	SW846 8260	MC	01/08/97
Semi-Volatile Analysis						
Acenaphthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Acenaphthylene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzidine	Not detected	ug/Kg	5000	SW846 8270	MC	01/06/97
Benzoic acid	Not detected	ug/Kg	5000	SW846 8270	MC	01/06/97
Benzo(a)anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(b)fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(k)fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(g,h,i)perylene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzo(a)pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Benzyl alcohol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroethoxy)methane	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroethyl)ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-chloroisopropyl)ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Bis(2-ethylhexyl)phthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Bromophenyl phenyl ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Butyl benzyl phthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

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BA Sample ID: AJ02598

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
4-Chloroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2-Chloronaphthalene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Chloro-3-methylphenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Chlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Chlorophenyl phenyl ether	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Chrysene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dibenzo(a,h)anthracene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dibenzofuran	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Di-n-butylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
1,2-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
1,3-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
1,4-Dichlorobenzene	Not detected	ug/Kg	10	SW846 8270	MC	01/06/97
3,3'-Dichlorobenzidine	Not detected	ug/Kg	2000	SW846 8270	MC	01/06/97
2,4-Dichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,6-Dichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Diethylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,4-Dimethylphenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Dimethylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4,6-Dinitro-2-methylphenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4-Dinitrophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4-Dinitrotoluene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,6-Dinitrotoluene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Di-n-octylphthalate	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
1,2-Diphenylhydrazine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Fluoranthene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Fluorene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-08

BA Sample ID: AJ02598

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
Hexachlorobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Hexachlorobutadiene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Hexachlorocyclopentadiene	Not detected	ug/Kg	200	SW846 8270	MC	01/06/97
Hexachloroethane	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Indeno(1,2,3-cd)pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Isophorone	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Methylnaphthalene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Methylphenol (o-Cresol)	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Methylphenol (p-Cresol)	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Naphthalene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
3-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
4-Nitroaniline	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
Nitrobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2-Nitrophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
4-Nitrophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
N-Nitrosodimethylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97



BA Report Number: 19793

Project Name: 505-9612-805 & 010

Sample ID: AF-08

BA Sample ID: AJ02598

Project Number: KJ5102

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
N-Nitrosophenylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
N-Nitrosodi-n-propylamine	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Pentachlorophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
Phenanthrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Phenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
Pyrene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
1,2,4-Trichlorobenzene	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97
2,4,5-Trichlorophenol	Not detected	ug/Kg	1700	SW846 8270	MC	01/06/97
2,4,6-Trichlorophenol	Not detected	ug/Kg	330	SW846 8270	MC	01/06/97

DL=Detection Limit as recommended by MDEQ.

Released by:

Date:

Elevated Volatile dl due to dilution.

*Over range and to be rerun.